Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-12. Canceled.

13. (NEW) A method for transforming data, comprising encoding the data prior to transferring the data via a communication system or storage in a memory, the encoding comprising the steps of:

generating preliminary data related to a plurality of characteristic functions for transforming values of an initial information of a full set of symbols into encoded data;

determining a number (n) of cycles for transformation of initial data under a predetermined criterion;

realizing cycle (i) for transformation which comprises:

generating a random number (R_i) which determines a characteristic function used for transformation of the data in the current transformation cycle (i);

transforming the data using the selected characteristic function;

repeating cycle (i) for transformation the number (n) times;

forming a cycle data (C_i) and an accessory data (F_i) as a result of transformation of the initial data in each cycle (i);

forming an encoded data having two parts, wherein the first part includes a finally transformed data (C_n) and the second part includes an accessory data array ($F = \{F_1, F_2, \ldots, F_n\}$).

14. (NEW) The method according to claim 1, wherein the length of the cycle data (C_i) is shorter than or equal to the length of the initial data, the predetermined criterion determines the length of the finally transformed data (C_n), and the length of the finally transformed data (C_n) is shorter than the length of the initial data.

15. (NEW) The method according to claim 1, wherein the length of the cycle data (C_i) is shorter than, equal to, or longer than the length of the initial data, the predetermined criterion determines the length of the finally transformed data (C_n) and/or the degree of protectability of the encoded data, and the length of the finally transformed data (C_n) is shorter than, equal to, or longer than the length of the initial data.

16. (NEW) The method according to claims 13, 14, or 15, wherein the cycle data (C_i) transformed in the cycle (i) and/or the accessory data (F_i) for the cycle (i) are mixed during at least one transformation cycle.

17. (NEW) The method according to claims 13, 14, or 15, wherein a certain part of the accessory data (F_i) for the cycle (i) is added to the cycle data (C_i) transformed in the cycle (i) during at least one transformation cycle.

18. (NEW) The method according to claim 16, wherein a certain part of the accessory data (F_i) for the cycle (i) is added to the cycle data (C_i) transformed in the cycle (i) during at least one transformation cycle.

19. (NEW) A device for encoding data, comprising:

an input unit for entering preliminary generated information related to characteristic functions, initial data, and a number (n) of transformation cycles;

a database in electrical communication with the input unit, the database including a plurality of the characteristic functions for transforming the initial data into encoded data;

a decision making unit in electrical communication with the input unit, the decision making unit adapted for making a decision on termination of the encoding process or on switching to the next cycle of encoding, and for outputting corresponding commands;

a transformation unit in electrical communication with the input unit and the database, the transformation unit adapted to transform information during each transformation cycle and output cycle data (C_i) and accessory data (F_i);

a random number generator, electrically disposed between the decision making unit and the database, for generating a random number (R_i) and outputting the feature (R_i) to the database;

a storage for transformed information for storing cycle data (C_i) inputted from the transformation unit, the storage for transformed information connected to the decision making unit for communication therewith;

a storage for accessory information for storing accessory data (F_i) inputted from the transformation unit into an accessory data array ($F = \{F_1, F_2,..., F_n\}$), the storage for accessory information in electrical communication with the decision making unit for receiving instructions therefrom;

a commutator having an at least one input and an at least one output, the at least one input for receiving instructions from the decision making unit and for receiving cycle data (C_i) from the storage for transformed information, the commutator adapted to output the cycle data (C_i) to the transformation unit unless instructions to terminate the encoding process are received from the decision making unit; and

an output unit having an at least one output unit input adapted to receive finally transformed data (C_n) from the commutator, the at least one output unit input also adapted to receive the accessory data array ($F = \{F_1, F_2,..., F_n\}$) from the storage for accessory information, the output unit having an at least one output unit output for outputting finally transformed data (C_n) and the accessory data array ($F = \{F_1, F_2,..., F_n\}$).

20. (NEW) A method for decoding encoded data based on a number (n) of transformation cycles, the method comprising the steps of:

generating preliminary data related to a plurality of characteristic functions that transform values of encoded symbols used with a particular type of encoded data with initial symbols, which correspond to characteristic functions used at encoding;

extracting a random number (R_i) from the encoded data, wherein the random number (R_i) defines the characteristic functions used in a transformation cycle (i) and which connects values of the encoded data with concrete symbols of cycle data (C_i) of the current transformation cycle;

selecting the characteristic function for connecting the values of the encoded data with the concrete symbols of the cycle data (C_i) of the current transformation cycle;

extracting from an accessory data array ($F = \{F_1, F_2,\ldots, F_n\}$) an accessory data ($F_i$) for the transformation cycle (i);

transforming the cycle data (C_i) using the selected characteristic function and the accessory data (F_i) for the transformation cycle (i);

deciding between switching to the next transformation cycle or terminating the transformation;

isolating the accessory data (F_i) for the transformation cycle (i) from the accessory data array ($F = \{F_1, F_2,\ldots, F_n\}$);

recovering the cycle data (C_i), which is transformed in the respective transformation cycle by using the selected characteristic function and the accessory data (F_i) for the transformation cycle (i);

deciding between switching to the next transformation cycle or terminating the transformation; and

using in each transformation cycle (i) a respective part of the accessory data (F_i), wherein recovered data is formed in the respective transformation cycle as a result of transformation with the use of the selected characteristic.

21. (NEW) A method according to claim 20, further comprising recovering a current communication, as a result of transformation using the selected characteristic function, in the current transformation cycle, the length of which is larger than or equal to the length of a previous communication resulting from transformation in the previous transformation cycle.

22. (NEW) A method according to claim 20, further comprising recovering a current communication, as a result of transformation using the selected characteristic function, in the current transformation cycle, the length of which is larger than, equal to, or smaller than the length of a previous communication resulting from transformation in the previous transformation cycle.

23. (NEW) The method according to claims 20, 21 or 22, wherein the cycle data (C_i) transformed in the respective transformation cycle (i) and/or the accessory data (F_i) for the respective transformation cycle (i) are preliminarily unmixed during at least one transformation cycle.

24. (NEW) A device for decoding data, comprising:

an input unit for receiving encoded information;

a database in electrical communication with the input unit, the database including a plurality of the characteristic functions for transforming initial data into encoded data;

a storage for accessory information in electrical communication with the input unit, the storage for accessory information adapted to store an accessory data array ($F = \{F_1, F_2, \ldots, F_n\}$);

a storage for transformed information in electrical communication with the input unit, the storage for transformed information adapted to store cycle data (C_i) corresponding to a transformation cycle (i) of a number (n) of transformation cycles;

a transformation unit in electrical communication with the database, the storage for transformed information and the storage for accessory information, the transformation unit configured for transforming information in each transformation cycle;

a decision making unit in electrical communication with the database, the storage for transformed information and the storage for accessory information, the decision making unit adapted for making a decision between termination of the decoding process or switching to the next transformation cycle of decoding, and for outputting corresponding instructions;

a commutator in communication with the storage for accessory information and adapted to receive instruction from the decision making unit, the commutator configured to output cycle data (C_i) to the transformation unit unless instructions to terminate the decoding process are received from the decision making unit; and

an output unit having in electrical communication with the commutator for receiving a restored communication and outputting finally decoded information.